



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: ALF 502R-5 BYPASS RATIO: 5.6
 UNIQUE ID NUMBER: 1TL003 PRESSURE RATIO (π_{co}): 12.0
 COMBUSTOR:
 ENGINE TYPE: TF RATED THRUST (F_{oo}) (kN): 31.0

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	13.6	97.8	34.8	16.9
AS % OF ORIGINAL LIMIT	69.4	82.9	54.4	51.8
AS % OF CAEP/2 LIMIT (NO _x)			68.0	
AS % OF CAEP/4 LIMIT (NO _x)			69.1	
AS % OF CAEP/6 LIMIT (NO _x)			69.6	
AS % OF CAEP/8 LIMIT (NO _x)			74.1	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	0.358	0.06	0.30	13.35	13.5
CLIMB OUT	85	2.2	0.296	0.05	0.25	10.56	12.7
APPROACH	30	4.0	0.103	0.22	7.10	6.60	5.7
IDLE	7	26.0	0.041	5.39	40.93	3.78	2.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			143	351	2796	1017	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				11.7	90.4	32.9	15.4
SIGMA (D _p /F _{oo} in g/kN, or SN)							
RANGE (D _p /F _{oo} in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 20 (% CORE FLOW) AT 8.81kN POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.3-102.4
TEMPERATURE (K)	288-293
ABS HUMIDITY (kg/kg)	0.0088-0.0108

FUEL

SPEC	0.81
H/C	1.92
AROM (%)	19.7

MANUFACTURER: Textron Lycoming
 TEST ORGANIZATION: Textron Lycoming
 TEST LOCATION: Stratford, CT
 TEST DATES: 26/07/1982-21/09/1982

REMARKS

1. Calculated using L-2 and R-3 data + L5 performance

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)